subjecting said semiconductor film to oxygen plasma; and crystallizing said initial semiconductor film to obtain a crystalline semiconductor film.

- 46. A method according to claim 45, wherein said crystallizing is performed by irradiating with an infrared ray or a laser light.
- 47. A method according to claim 45, wherein said initial semiconductor film is crystallized without melting through a solid state.
- 48. A method according to claim 45, wherein an oxide film of said semiconductor film is formed thereon by said oxygen plasma.
  - 49. A method for manufacturing a semiconductor device comprising steps of: forming an initial semiconductor film formed over a substrate; subjecting said semiconductor film to oxygen plasma; and irradiating said semiconductor film with an infrared ray or a laser light.
- 50. A method according to claim 49, wherein said initial semiconductor film is crystallized without melting through a solid state.
- 51. A method according to claim 49, wherein an oxide film of said semiconductor film is formed thereon by said oxygen plasma.
- 52. A method for manufacturing a semiconductor device comprising steps of:
  contacting a material for promoting crystallization to at least a part of an initial
  semiconductor film formed over a substrate;
  subjecting said semiconductor film to oxygen plasma; and

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- 53. A method according to claim 52, wherein said crystallizing is performed by irradiating with an infrared ray or a laser light.
- 54. A method according to claim 52, wherein said initial semiconductor film is crystallized without melting through a solid state.
- 55. A method according to claim 52, wherein an oxide film of said semiconductor film is formed thereon by said oxygen plasma.
- 56. A method for manufacturing a semiconductor device comprising steps of: contacting a material for promoting crystallization to at least a part of an initial semiconductor film formed over a substrate;

subjecting said semiconductor film to oxygen plasma;

crystallizing said initial semiconductor film using said material, to obtain a crystalline semiconductor film; and

patterning said crystalline semiconductor film.

- 57. A method according to claim 56, wherein said crystallizing is performed by irradiating with an infrared ray or a laser light.
- 58. A method according to claim 56, wherein said initial semiconductor film is crystallized without melting through a solid state.
- 59. A method according to claim 56, wherein an oxide film of said semiconductor film is formed thereon by said oxygen plasma. --